

State Selection Committee Evaluation

Lipscomb Academy

The Selection Committee determined that Lipscomb Academy submitted a good Green School Application. The on-going participation of Lipscomb in the Green School Program since 2007 demonstrates a high level of commitment by the school to make environmental education a priority. In many cases the documentation was not clear and specific programs and policies that may be in place have not been referenced or documented.

Pillar I Comments:

The strength of this part of the application was in Target #5. Many community partners were listed as partners who were helping the school implement their Solid Waste Action Plan. It was unclear what type of student involvement might have been elicited to design and carry out the Water Efficiency and Conservation Plan in Target #4. Lipscomb does have an anti-idling policy. Photo documentation of posted signs or policy from the parent guidebook would have strengthened this application component.

Pillar II Comments:

The strength of Pillar II was in the description of Target #13 Germ Management Policies. However, the school does not have an Asthma Plan or a UV Safety Plan in place. These policies would have to be evident to strengthen this portion of the application.

Lipscomb is planting classroom gardens. More school action should be initiated to purchase and use foods that are grown and processed within 200 miles of the school, and provide clearer documentation of appropriate actions taken to address this target area.

Pillar III Comments:

The rubric for target #14 requires a fraction of the entire faculty that participated in environmental professional development. From the submitted documentation it was hard to determine what portion of the entire faculty had participated in environmental professional development.

The strength of this portion of Lipscomb's application was Target #20. Lipscomb provided firm documentation that their students partner with local higher education institutions, businesses, informal science institutions, and even mentored students from other schools. Target #19 was clearly met and documentation supported extensive Student Learning Projects.

As mentioned, Lipscomb is utilizing student gardening projects. It was explained that this school may consider planning other types of outdoor classrooms to strengthen a future application.

The Selection Committee's scores for all twenty targets were compiled and averaged and resulted in a total score of **74.6** for Lipscomb Academy.



2012-2013 School Nominee Presentation Form

PART I - ELIGIBILITY CERTIFICATION

School and District's Certifications

The signatures of the school principal and district superintendent (or equivalents) on the next page certify that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of their knowledge. *In no case is a private school required to make any certification with regard to the public school district in which it is located.*

1. The school has some configuration that includes one or more of grades K-12. (Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.)
2. The school has been evaluated and selected from among schools within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. Neither the nominated public school nor its public school district is refusing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review.
4. OCR has not issued a violation letter of findings to the public school district concluding that the nominated public school or the public school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
5. The U.S. Department of Justice does not have a pending suit alleging that the public school or the public school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
6. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the public school or public school district in question; or if there are such findings, the state or public school district has corrected, or agreed to correct, the findings.
7. The school meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.



U.S. Department of Education Green Ribbon Schools 2013

For Public Schools only: ☐ Charter ☐ Title I ☐ Magnet ☐ Choice

Name of Principal **Mr. Jonathan Sheahen**

(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name **Lipscomb Academy Elementary School**

(As it should appear in the official records)

School

Mailing Address **4517 Granny White Pike**

(If address is P.O. Box, also include street address.)

City **Nashville** State **TN** Zip **37204**

County **Davidson** State School Code Number* **N/A**

Telephone **615-966-1783** Fax **615-966-7624**

Web site/URL **lipscombacademy.org** E-mail **jonathan.sheahen@lipscomb.edu**

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.

A handwritten signature in black ink, appearing to read "Jonathan Sheahen".

(Principal's Signature)

Date **February 28, 2013**

Name of Superintendent* **N/A**

(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name* **N/A**

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate. This is one of the highest performing green schools in my jurisdiction.

N/A

Date

(Superintendent's Signature)

*Private Schools: If the information requested is not applicable, write N/A in the space.



PART II – SUMMARY OF ACHIEVEMENTS

Hundreds of schools and corporations are using the word “sustainability” to describe their efforts to create a world that sustains both human and ecological well-being. At Lipscomb Academy Elementary School (LAES, formerly known as David Lipscomb Elementary School) we believe that sustainability extends beyond environmental responsibility; in a sustainable world, we would ensure equitable resource distribution and maintain a basic level of health and well-being for all, while regenerating resources and keeping ecological systems intact.

Starting with the environmental stewardship is a natural and measurable entry point to global sustainability. Over the past six years Lipscomb Academy Elementary School has focused on environmental responsibility and as a result has become a “green beacon” in the community. Our school has been recognized at the state and national level for our environmental efforts, presented at several state environmental conferences, and has built such a reputation that we often host other schools who are trying to build a green school program. The following is a sample of some of our accomplishments: LAES participated in school-wide energy audits, altered energy habits, replaced inefficient appliances and systems, established a school-wide and community recycling program, built an outdoor classroom, adopted and implemented environmental standards and curriculum, participated in many service-learning projects, and served on the Tennessee environmental advisory committee, to name a few.

Lipscomb Academy Elementary School began its sustainability journey with the TP3 Green School (currently known as TGSP) program in August 2007. After much research, the decision was made to adopt all five parts of the Green School program in one school year. With the backing of the principal and the excitement of teachers, staff, and students, a yearlong project began which changed the face of LAES for years to come. Audits were done, opportunities were identified, and ideas began to flow. Improvements were made in each one of the five areas of the TP3 program (Land and Water Conservation, Hazardous Waste, Energy Conservation, Waste Reduction, and Air Quality).

For instance, students and faculty created and still maintain butterfly gardens to provide habitat for Monarch butterflies as they live in and migrate through Tennessee. While developing the site, students and teachers embarked on a journey of learning about the butterfly life cycle, the web of life, land and water conservation, and the value of recycling. Hundreds of Monarchs are now reared in classrooms, tagged, and released each fall for the migration to Mexico. The butterfly garden has been designated Monarch Waystation #1056 by the Monarch Watch program (University of Kansas). Six —Lipscomb Monarch have been recovered in the Mexican overwintering sites.

With the adoption and implementation TP3, LAES achieved Partner status as a TP3 Green School in November 2007. The following year LAES was recognized as a Performer Level TP3

Green School and received the Green School Recognition flag. Lipscomb Academy is the only private school in Tennessee and the first elementary school to receive this designation. The Performer level status has been maintained each year by submitting new growth and achievements, as well as engaging in community outreach and mentoring other groups. With the revamping of Tennessee's program in 2012, LAES is now a Three-Star Partner in TGSP. Several LAES achievements have been highlighted by the TP3 program at environmental conferences and in mentoring situations. LAES is also registered with the PLT Green Schools program and the Green Apple program; these projects are only in the beginning stages.

Because of work with the Green School program and environmental curriculum initiatives, LAES has received local, state, and national awards. A few of these include:

- Good Sports Always Recycle -2010, 2007, 2005, 2004, 2002
- 2009 Governor's Environmental Stewardship Award for Excellence in Green Schools (K-12)
- 2011 - Tennessee Recycling School of the Year
- 2012 - Disney Planet Challenge – State winner in Tennessee for the project: Don't Rush to Flush
- The project also received 8th place in National competition
- 2012 - NEED Project – 2nd place in the state of Tennessee for K-2 division
- 2012 – Sea World Environmental Excellence Award - One of only three National Winners and the only elementary school to receive this honor for the project: SCRAP (School Children Recycling Action Program).

LAES has also been recognized on television, in newspaper stories, and with awards because of Green School efforts. Countless schools, clubs, and individuals have been mentored and joined green initiatives and sustainability efforts. However, the best part of Lipscomb's environmental education programs and activities involve our parents and students. Parents tell us — “my child won't let me throw anything away.” Students stop each other in the cafeteria and hallways to encourage recycling.

At a very early age, LAES students understand that they have the ability to make a difference in the world around them. At LAES students see environmental education in action. The children are learning to reduce waste and reuse items so that less refuse is dumped into the land. They understand ecological connections between the needs of butterflies, other creatures, and people. While working in the square-foot gardens, students experience the joy of growing and consuming their own vegetables. As these environmental practices become automatic to them; they become better citizens, using thoughtful practice with appreciation for their responsibility in the natural world.



PART II – SUMMARY OF ACHIEVEMENTS

Instructions to School Principal

Provide a concise and coherent "snapshot" that describes how your school is representative of your jurisdiction's highest achieving green school efforts in approximately 800 words. Summarize your strengths and accomplishments. Focus on what makes your school worthy of the title U.S. Department of Education Green Ribbon School.

PART III – DOCUMENTATION OF STATE EVALUATION OF NOMINEE

Instructions to Nominating Authority

The Nominating Authority must document schools' high achievement in each of the three ED-GRS Pillars and nine Elements. For each school nominated, please attach documentation in each Pillar and Element. This may be the Authority's application based on the Framework and sample application or a committee's written evaluation of a school in each Pillar and Element.

Nominating Authority's Certifications

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The school has some configuration that includes one or more of grades K-12. (Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.)
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. The school meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating
Agency

Tennessee Department of Education

Name of Nominating
Authority

Ms. Linda Jordan

(Specify: Ms., Miss, Mrs., Dr., Mr., Other)



I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.


(Nominating Authority's Signature)

Date 8-28-13

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to green.ribbon.schools@ed.gov according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509
Expiration Date: February 28, 2015

Public Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email ICDocketMgr@ed.gov and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.



TN School Contact Information

School Name: Lipscomb Academy Elementary School

Street Address: 4517 Granny White Pike

City: Nashville State: TN Zip: 37204

Website: www.lipscomb.edu/elementary Facebook page: _____

Principal's Name: Jonathan Sheahen

Principal's Email Address: jonathan.sheahen@lipscomb.edu Phone Number: 615-966-1783

Lead Applicant Name (if different): Ginger Reasonover

Lead Applicant Email: ginger.reasonover@lipscomb.edu Phone Number: 615-966-6326

Level: <input checked="" type="checkbox"/> Elementary (PK - 4) <input type="checkbox"/> K - 8 <input type="checkbox"/> Middle (6 - 8 or 9) <input type="checkbox"/> High (9 or 10 - 12)	School Type <input type="checkbox"/> Public <input checked="" type="checkbox"/> Private/Independent <input type="checkbox"/> Charter	How would you describe your school? <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Suburban <input type="checkbox"/> Rural	District Name N/A <input type="checkbox"/> Among the Largest 50 Districts?
			Total Enrollment: 342
Does your school serve 40% or more students from disadvantaged households? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		% receiving FRPL N/A % limited English proficient N/A Other measures N/A	
		Attendance rate: 99% Graduation rate: PK - 4	

Please add any additional information that might be pertinent for reviewers to know (such as being a magnet school, a K-12 school, a STEM school, etc.):

Lipscomb Academy Elementary School (LAES) is a private Christian school. The entire campus school system includes PK-12, with three divisions: elementary, middle, and high school. LAES exists under the umbrella of Lipscomb University; however, it is located on a separate campus, with its own administration. LAES is the only private school to have achieved Performer level status with the Tennessee Green Schools program and the first K-4 school in the state to do so.

Target #1: Participation in a Green School Program

Lipscomb Academy Elementary School (LAES, formerly known as David Lipscomb Elementary School) began its journey with the TP3 Green School (currently known as TGSP) program in August 2007. After much research, the decision was made to adopt all five parts of the Green School program in one school year. With the backing of the principal and the excitement of teachers, staff, and students, a yearlong project began which changed the face of LAES for years to come. Audits were done, opportunities were identified, and ideas began to flow. Improvements were made in each one of the five areas of the TP3 program (Land and Water Conservation, Hazardous Waste, Energy Conservation, Waste Reduction, and Air Quality). These changes were reported in success stories which included Member Information, the Story, the Success, and the Pollution Prevented.

LAES' first success story focused on Land and Water Conservation. Students and faculty created and still maintain butterfly gardens to provide habitat for Monarch butterflies as they live in and migrate through Tennessee. While developing the site, students and teachers embarked on a journey of learning about the butterfly life cycle, the web of life, land and water conservation, and the value of recycling. Hundreds of Monarchs are now reared in classrooms, tagged, and released each fall for the migration to Mexico. The butterfly garden has been designated Monarch Waystation #1056 by the Monarch Watch program (University of Kansas). Six "Lipscomb Monarchs" have been recovered in the Mexican overwintering sites.



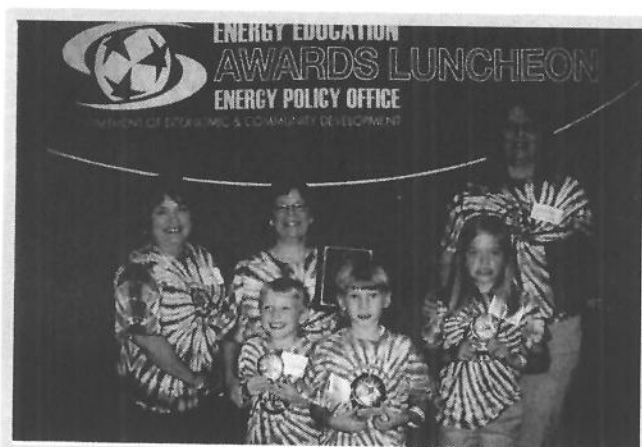
The wonder of
Monarch Butterflies!

With the completion of this success story, LAES achieved Partner status as a TP3 Green School in November 2007. From that date to April 2008, LAES completed success stories in each of the other four categories. On May 16, 2008, LAES was recognized as a Performer Level TP3 Green School and received the Green School Recognition flag. Lipscomb Academy is the only private school in Tennessee and the first elementary school to receive this designation. The Performer level status has been maintained each year by submitting a new success story, as well as engaging in community outreach and mentoring other groups. With the revamping of Tennessee's program in 2012, LAES is now a Three-Star Partner in TGSP.

Several LAES success stories have been highlighted by the TP3 program at environmental conferences and in mentoring situations. Examples of these success stories are available upon request. LAES is also registered with the PLT Green Schools program and the Green Apple program; these projects are only in the beginning stages.

Because of work with the Green School program and environmental curriculum initiatives, LAES has received local, state, and national awards. A few of these include:

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NEED Awards - 2012



TP3 Green Flag ceremony with honored guests



Sea World Environmental Excellence Award

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At a very early age, LAES students understand that they have the ability to make a difference in the world around them. At LAES students see environmental education in action. The children are learning to reduce waste and reuse items so that less refuse is dumped into the land. They understand ecological connections between the needs of butterflies, other creatures, and people. While working in the square-foot gardens, students experience the joy of growing and consuming their own vegetables. As these environmental practices become automatic to them; they become better citizens, using thoughtful practice with appreciation for their responsibility in the natural world.

Target #2: Energy Conservation and Alternative Energy

LAES is housed in a 1960's building which has had few, other than cosmetic, renovations through the years. Without major renovations, it is impossible to be considered Energy Star certified. LAES has, however, made changes through recent years which have reduced energy consumption:

- In 2007, an energy audit was performed by a representative from the University of Memphis. Steps have been taken to make the suggested changes.
- The old boiler was removed and new HVAC system was installed in Summer 2012. This installation reduced the energy needed for heating/cooling and reduced GHG emissions.
- There is an on-campus renewable energy source: One classroom is heated and cooled by a geothermal unit. This classroom was used as a TVA pilot program before geothermal systems were installed in buildings on Lipscomb University campus.
- Lights are switched off and computers powered down to conserve energy when not in use.
- All copiers have a sleep feature that automatically engages when the copier is not in use.
- Registration packets, newsletters and most correspondence are sent electronically as an energy conservation measure. The electronic packet, along with the faculty initiative to intentionally reduce paper usage, resulted in a decrease of 691 reams or 44% reduction of copy paper ordered during the first year.

Target #3: Energy-Efficient Buildings

Although LAES is housed in a 1960's-era building, the facilities have been retrofitted with more energy-efficient equipment as the need arose and funding permitted. New energy efficient faucets and toilets were installed in the lobby restrooms in 2012. T-12 bulbs and ballasts in the third and fourth-grade classrooms and hallways have been replaced with T-8s. The recently installed HVAC system is more energy efficient than the old boiler.

A new roof was completed in spring, 2012 with the following criteria meeting LEED New Construction Standard (LEED-NC Version 2009): **Sustainable Sites (SS) Credit 7.2 - Heat Island Effect: Roof.** The LEED credit requires the use of roofing materials that have a Solar Reflectance Index (SRI) equal to or greater than 78 (in accordance with ASTM E 1980). The SRI for Carlisle's Sure-Weld TPO Membrane - White is 110 and meets the requirements of this credit.

Over the next two years, LAES will undergo a major renovation and construction. Green Team leaders are involved in talks with the architects and builders to make this renovation an energy efficient transition.

Target #4: Water Efficiency and Conservation

In an effort to reduce water waste and control water run-off, Lipscomb Academy has taken the following actions:

- Recent additions to the lobby restrooms include 'touchless' faucets and self-flushing toilets.
- The irrigation systems at LAES are checked on a yearly basis for leaks and blockages.
- Irrigation systems in the outdoor classroom and playground areas are on a timer.
- Native plants are used in the landscaping when possible, with regionally appropriate plants in other areas.
- A rain garden is incorporated in the outdoor classroom to collect rain runoff which would otherwise cause erosion and flooding of the fishpond.
- In summer, 2012, drains and drainage ditches were cleared and lined with creek rocks to improve overflow during storms.

Target #5: Minimize Solid and Hazardous Waste

Solid waste is kept to a minimum at LAES. Paper, cardboard, plastics and cans which are generated within our school are recycled. Containers are used in each classroom for day-to-day recycling, and then transferred to a larger container in the teacher workroom. Students are responsible for monitoring the classroom bins and then emptying them into larger bins. School personnel empty this bin daily into a 2,000-pound multi-stream receptacle which is serviced weekly by Metro Public Works. In addition to paper products, LAES also has a robust, award-winning recycling program for other non-traditional items. Chip bags, drink pouches, plastic water bottles, milk cartons and plastic zipper bags are collected daily in the cafeteria. Fourth-grade students transfer compost which is collected daily from the cafeteria to the on-site composters. Ink jet cartridges and plastic bags are recycled regularly.

LAES students, Green Team and parent environmental teams count chip bags and drink pouches to send to TerraCycle for recycling. TerraCycle, in turn, pays LAES money which the school has used to support Feed America, Rainforest Reforestation, Clean Water for a Day, St. Jude Children's Hospital and others. LAES partnered with PepsiCo, Greenopolis and Waste Management in 2011 to become part of the PepsiCo Dream Machine Rally Program. This program partners with schools across the US to recycle aluminum cans and #1 bottles. Students are encouraged to bring in cans and bottles from home and school sporting events. Third-grade students are responsible for collecting those cans and bottles each morning from the respective classrooms, then separating, tallying and charting the results by the end of each day. In November 2012 alone, LAES recycled over 15,000 plastic bottles and cans through PepsiCo. LAES currently is ranked in the top 20 in this national program. Aluminum cans collected by kindergartners are diverted for recycling with RockTenn to benefit our participation in the Monarch Watch Program.



LAES' third graders partner with Keep America Beautiful and Americas Recycles Day to offer a convenient, one-stop recycling drop-off in November of each year. This event is publicized through media channels and includes such items as electronic waste, pharmaceuticals, batteries, fluorescent bulbs, and mercury thermometers, as well as traditionally -accepted recyclables. This year's event, held on November 15, 2012, showed a significant increase over the 2011 event (see text boxes below).

Collections for 2011

**31,962 lbs. of e-waste
21,768 pharmaceutical pills
8,000 batteries
2,000 plastic bags
75 cell phones
100 ink cartridges
400 florescent bulbs**

Collections for 2012

**35,000 lbs. of e-waste
43,575 pharmaceutical pills
10,000 batteries
Thousands of plastic bags
125 cell phones
185 ink cartridges
600+ florescent bulbs**



LAES third graders play a hands-on role in collecting the solid waste items deposited at the school at the annual Household Waste Drop Off event.

LAES has a formal environmental management system for management and disposal of hazardous waste in compliance with the EPA. In 2008, LAES adopted a Green Clean protocol. Per conversation with the My Office Products representative, office paper is composed of recycled content in accordance with EPA's Comprehensive Procurement Guide and is chlorine free.

Target #6: Minimize Transportation Impacts

LAES is located in a suburban area. Students, faculty, and staff who live in the area routinely walk to school. Sidewalks line the campus and traffic crossing guards are in place to facilitate pedestrian traffic. Lipscomb Academy has no bus system. Private cars typically have more than one student riding in the vehicle. Carpooling of students is 'officially' encouraged.

Staggered dismissal of grade levels is in place to prevent vehicle congestion and idling. Rarely do cars sit for more than a minute in the traffic lanes.

As part of the 2nd grade curriculum, students have studied air pollution and counted the number of cars present during a normal traffic pattern. Methods to further decrease idling time during pick-up are under consideration.

Target #7: Integrated Pest Management

LAES holds annual inspections for termites. Treatment is provided on an as-needed basis. All chemicals used are listed in the MSDS book and are available upon request. Children are not present when treatments are applied. Treatments contain no chemicals that would present a danger to children. A record of pesticide applications is available.

Ladybugs and other beneficial creatures have been released in the campus gardens, creating a natural treatment alternative.

Target #8: Chemical Exposure Management

LAES utilizes an on-line MSDS system for all employees and students. This tool covers chemicals for cleaning as well as those for lab settings.

In 2008, LAES adopted a "Green Clean" system. This information is currently under review. Drinking water is tested regularly in accordance with Metro Water standards.

Target #9: Excellent Indoor Air Quality

Lipscomb University has an asbestos plan requiring all buildings on each campus to be inspected. All areas containing asbestos have been identified; friable asbestos has been abated. LAES is compliant with the state of Tennessee regarding AHERA and is inspected every 3 years in accordance with asbestos management.

All Lipscomb facilities are visually inspected for mold, moisture, and water leakage problems. The school does not have a formal asthma management program, but is a "no smoking" campus. Lipscomb tests ground and below-ground spaces periodically for radon levels. Any level which exceeds 4.0 pCi/L recommended by the EPA is mitigated.

Lipscomb has the IAQ Tools for Schools and will assess IAQ in the coming months.

Target #10: UV Safety

LAES has no formal UV safety program in place. However, the EPA Sunwise Program is under review and will be implemented soon. Students learn about the sun's power and damaging UV rays through hands-on science labs.

Target #11: Fitness and Outdoor Time

Students at LAES have scheduled physical education classes 2 times per week for 55 minute blocks. In these P.E. classes they are taught locomotor skills, fitness/nutrition, and individual/team sports. Students also engage in additional outdoor "free play" each day. Teachers routinely engage in a friendly game of kickball with the older students while younger students play on swings and age-appropriate climbing equipment.

LAES has a wonderful paved 1/8 mile track which students, faculty, and staff utilize. The faculty participates in events such as 12 Miles to Christmas (with students and teachers logging miles together), Lee Denim Day Walk, and Walktober.

LAES students also participate in the Music City Marathon Kids' Marathon. Beginning in early February, students walk/jog a mile each day leading up to the event in order to log marathon miles. Celebrity walkers join the students. The last fifth of a mile is completed at the Titans stadium with students from across the Nashville area.



LAES
students
participating
in the
Music City
Marathon
Kids'
Marathon
2012

Target #12: Food and Nutrition

LAES does not participate in National School lunch Program, therefore is ineligible for the USDA Healthier US Schools Challenge Award.

The LAES cafeteria offers grilled choices, milk, juice, vegetables and a fresh salad bar each day. Inspection scores from the Health Department are consistently in the 90's. Some cafeteria meal ingredients are obtained from local sources. Children are encouraged to eat entrees and fruits/veggies before consuming desserts.

Snack and soda machines are not available for student use.

LAES has created three square-foot gardens which are planted and tended by the kindergartners. Currently, the produce from this garden is used for tasting; however, there are plans to increase garden production so that salad greens and vegetables will be available for cafeteria use.

Target #13: Germ Management

Students at LAES are taught at an early age about germs. Two such examples include:

- PK classes learn about germs through hands-on science labs. Glitter gel and black lights are used to show children proper hand washing techniques and how germs are spread.
- With the help of the university biology department professors, pre-1st students are involved in an extensive study of germs. Agar plates have been prepared so that students "plated" their own germs. Lipscomb University Professor, Bonny Millimaki, took the plated germs and made

prepared slides for the students to observe under the microscope. Students discussed “good” germs and “bad” germs. The students brainstormed ways to stop the spread of “bad” germs.

Drinking water is protected from bacterial contamination and checked on a regular basis. Many classes allow individual water bottles for students to prevent spread of germs through drinking at the water fountain.

Antibacterial gel dispensers have been installed in every classroom and near every door in the building so that it is readily accessible for frequent use by students and teachers. Touchless faucets recently were installed in the most-frequently-used restrooms. All classrooms have automatic paper towel dispensers. All students wash hands after using the restroom and before eating lunch.

Target #14: Professional Development in EE

LAES offers several professional development opportunities on-site throughout the year. Four elementary school teachers are trained with PLT (Project Learning Tree). One of these teachers is a PLT facilitator. Teachers from three grade levels have attended NEED (National Energy Education Development) summer workshops. Three members of the faculty were recently awarded grant funds to attend the National NEED Conference in Washington, DC in summer of 2013. Through Lipscomb University connections, LAES faculty has the opportunity to participate in environmental, sustainability, and service learning classes. The faculty is also trained with the Biology in a Box series. Becky Collins, kindergarten teacher, was recognized in 2010 with the TAIS (TN Association of Independent Schools) Hubert Smothers Award for Excellence in Teaching (especially environmental studies). In 2010, Ginger Reasonover, LAES Science Lab Coordinator, was named PLT Educator of the Year for TN and was recognized nationally with honorable mention.

Target #15: Environment and Sustainability in the Curriculum

LAES adopted environmental standards into the science curriculum in 2010. All students are taught the concept of “reduce, reuse and recycle”. Individual grade levels focus on particular aspects of the original Green Schools Platform. If a student begins kindergarten at LAES; by the time they finish fourth grade, they will have been exposed to five different elements:

- K – Reduce, Reuse, Recycle
- 1st grade – Land and Water Management
- 2nd grade – Air Quality
- 3rd grade – Hazardous Waste
- 4th grade – Energy Conservation

Although subjects are somewhat interchangeable, they are very deliberately focused on the national science standards which are already in place for each grade level.

In 2012, first-grade students built two on-site composters with the help of Nissan North America’s Sustainability employees.

Target #16: Creation and Use of Outdoor Classrooms

Outdoor Classroom

LAES outdoor grounds are both playful and productive. A beautiful outdoor classroom is equipped with gardens, a math patio, a sundial, stadium seating area, and a fishpond. All grade level classes use the

outdoor classroom for various educational experiences. Hands-on science learning is targeted by using the garden areas to teach about colors, five senses, seasons, and more. The rain garden functions to control flooding and erosion. A variety of butterflies and birds find food and shelter by visiting bird feeders and butterfly host plants, making the outdoor classroom a certified Wildlife Habitat area. The butterfly garden is designated Monarch Waystation #1056.

Specific uses of outdoor classroom spaces, by grade level, are as follows:

- K4 and K5 students complete a fall scavenger hunt in the outdoor classroom area, while learning to appreciate the world around them and using their five senses.
- First graders enhance their study of trees taking a nature walk to gather leaves for investigation.
- Second graders use the outdoor classroom for meditation and quiet reflection while honing creative writing skills.
- Third graders' study of temperature is enriched at the pond area as they hypothesize and, then, test the temperature of the pond water.
- Fourth grade students practice drawing skills in the garden area.

LAES' school grounds also include a paved walking track and covered pavilion, complete with electricity, fans, and a water source. Community organizations use the outdoor area for recreation, meetings, cookouts, and other functions on a regular basis. Outdoor recycling bins are located in these areas for use by the community.

Gardens

For years LAES has actively planted and tended gardens on the school grounds. Previously, teachers and students worked together to produce lettuce, carrots, peppers, tomatoes, pumpkins, and green beans. Beginning in the 2012-13 school year, each grade level will nurture a specific type of garden:

Kindergarten—square-foot garden (see text box below for more information)

Pre-first grade—gourd garden

First grade—five senses garden

Second grade—flower garden

Third grade—healing garden

Fourth grade—pizza garden

A goal for the gardening initiative is to provide greens and vegetables for the school cafeteria salad bar. Teachers want to instill in the youngest students a taste and appreciation for fresh, locally-grown produce. This is a life-long lesson in good nutrition and sustainability which will spread through families.



Kindergarteners were very proud of their broccoli plants. "It's almost as big as me!"



Kindergarteners practice measuring skills as they track and graph the growth of their plants.



The Square-Foot Garden Project



LAES launched a new gardening project in 2011—an experiment undertaken with one kindergarten class. The bed of what is called the “square-foot garden” was built from the ground up with “lasagna gardening”—layering weed barrier, reclaimed cardboard, and recycled newspaper with spent coffee grounds, cow manure, composted leaves, mushroom medium, and potting soil. Each child was allotted one square foot of garden where s/he grew broccoli and spinach. At first the children didn’t think they would like those veggies, but they were convinced to try a spinach leaf on planting day and loved it! The class picked spinach regularly for four weeks. Whenever they passed the garden on the way to the playground, they begged to stop for spinach! Each child’s square-foot garden also produced one head of broccoli (approximately six inches in diameter). Teachers gave them permission to eat what they wanted, with the intent of sharing the rest.

However, the children ate almost all of it and asked for more!

Building on the previous year’s experience, all three kindergarten classes built garden boxes in August 2012, in which they have planted broccoli, herbs, and “zombie plants” (green onions and leeks reclaimed from the university dining service after their green parts were used for cooking). The children measured, watered, and weeded as they watched their own gardens grow. In December 2012, students planted a variety of salad greens. In less than one month the seeds have germinated and tiny greens have emerged. Harvest is expected within 30 days.

Target #17: Environmental Education and STEM

The science curriculum at Lipscomb Academy is both fun and challenging. Environmental education is taught at each grade level, PK-4. Classroom science curriculum is enhanced through a weekly science lab program, beginning with pre-kindergarten students. Through interactive lecture, hands-on experiments, guest speakers (including Lipscomb University professors), interactive white boards, and experiential projects, students enjoy a rigorous curriculum which includes all disciplines of science. Here are examples for each grade level:

- 4th-graders use a “Skittles experiment” to discover natural resources of earth and their uneven dispersion and use. During the study of electricity, these older students take part in the TVA Home Energy survey.
- 3rd-graders study space by simulating a crash landing on the dark side of the moon, building rockets, computer generated landing of a space craft, spending time in Lipscomb’s portable planetarium and hosting NASA astronauts.
- 2nd-graders complete a unit of colonial times, using natural dyes to make colored cloth.
- 1st-graders complete a 6-week unit delving into engineering as they learn about force and motion, flight, natural pollutants found in the air, electricity, heat energy, and structures.

- Pre-1st students study the Polar Regions and temperature as they build arctic habitats and make simulated blubber.
- Kindergarten students rear, tag, and release Monarch butterflies as they discuss migration. They make graphs of male and female Monarchs, use calendar skills for tracking the life of a 'special' butterfly, learn about 'host' and 'nectar' plants in the butterfly garden and study maps while tracking migrating Monarchs. Since 2004, six 'Lipscomb Monarchs' have been recovered in the Mexican overwintering sites. Kindergartners participated in the "Monarchs in Space" project by rearing Monarchs and comparing development with those taken to the International Space Station on Space Shuttle Atlantis. Later, the students enjoyed discussing the project in person with Captain Barry Wilmore, the pilot of the Atlantis mission.
- Pre-K students make recycled paper after studying trees and learning where paper comes from.

After-school activities also promote STEM learning. Green Team members (NEED Project) study 10 sources of energy. Renewable and non-renewable energy sources are discussed using books, simulations, experiments, and hands-on projects. Some project examples include:

- Lighting a dark closet using only a 2-liter plastic bottle filled with water and sunlight
- Using biomass energy by building a campfire to roast marshmallows and make s'mores
- Using a hydro-electric generator to show the power of water and experiencing a demonstration of how a dam works or fails(by using a brownie mix with monopoly houses)
- Studying solar energy and making 'light bracelets'



A study in lighting possibilities for under-developed nations: Lighting a room using soda bottles and sunlight



3rd grade Space Day: making rockets!

Beginning in January 2013, LAES is offering "After School Explorations." These are extra-curricular classes taught by elementary faculty members which will meet once weekly after school for six weeks. Current classes include Elementary Engineering (including building a robot), Rocket Making, 3-D Sculptures (using paper Mache), and Mmm Chocolate! (cooking with chocolate). Student response to the offerings has been so enthusiastic that plans are under way for spring and summer offerings.

Target #18: Environmental Literacy among LEA Graduates

LAES is a Pre-K through 4th grade elementary school. LAES has adopted an environmental curriculum with each grade focusing on one of the five targets of Tennessee's Green School program. The curriculum includes hands-on experiences in addition to a service-learning component. Fourth-grade "graduates" feed into Lipscomb Academy Middle School and, later, High School. When our students graduate from LAES they have been exposed to a well rounded environmental curriculum.

Target #19: Service Learning

LAES is committed to service learning in every grade level, K-4. Teachers lead students in developing relationships, studying connections, and engaging in a community service aspect of as many environmental-related studies as possible. Some examples of service learning, environmental/sustainability projects follow:

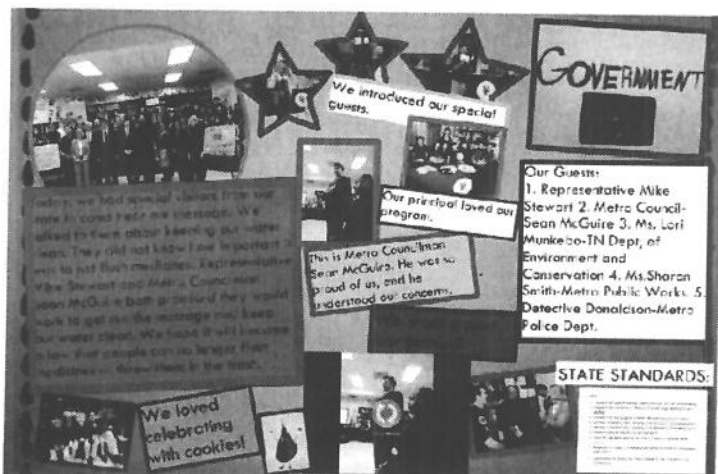
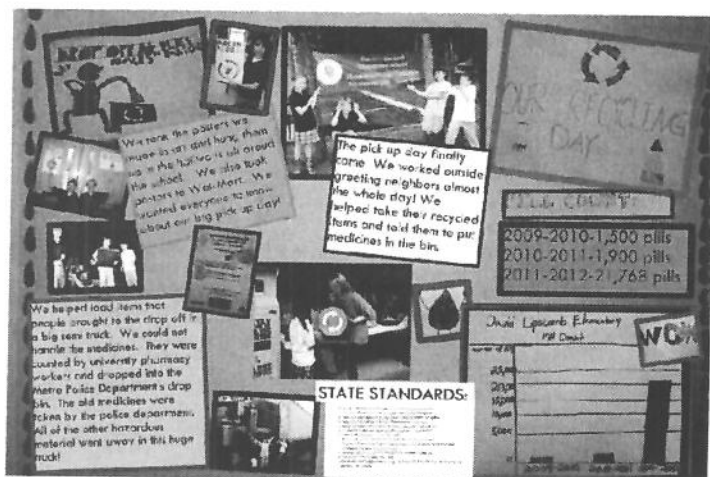
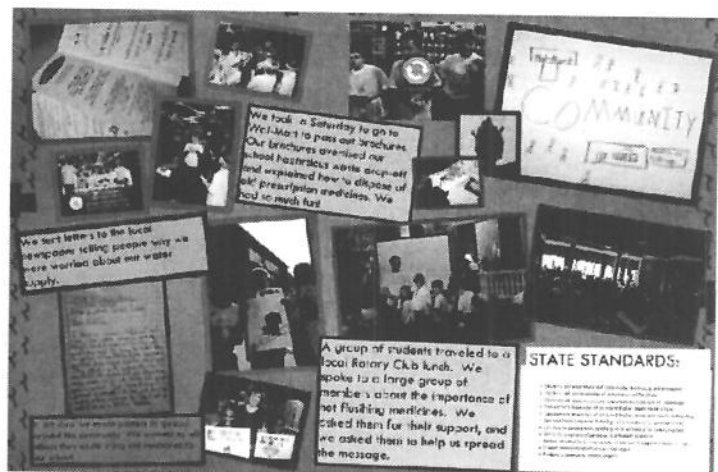
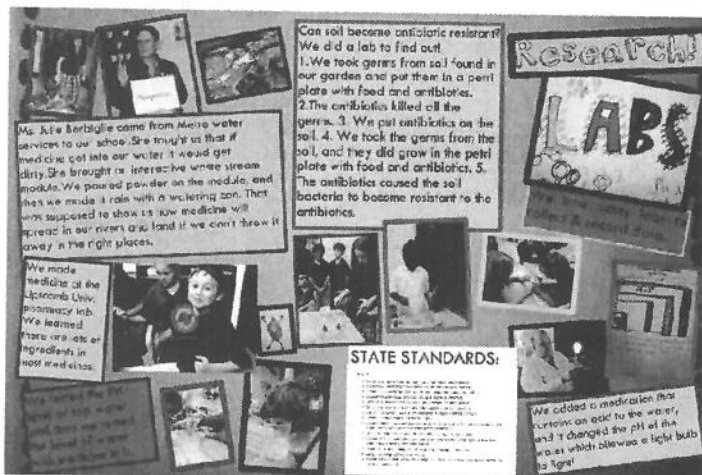
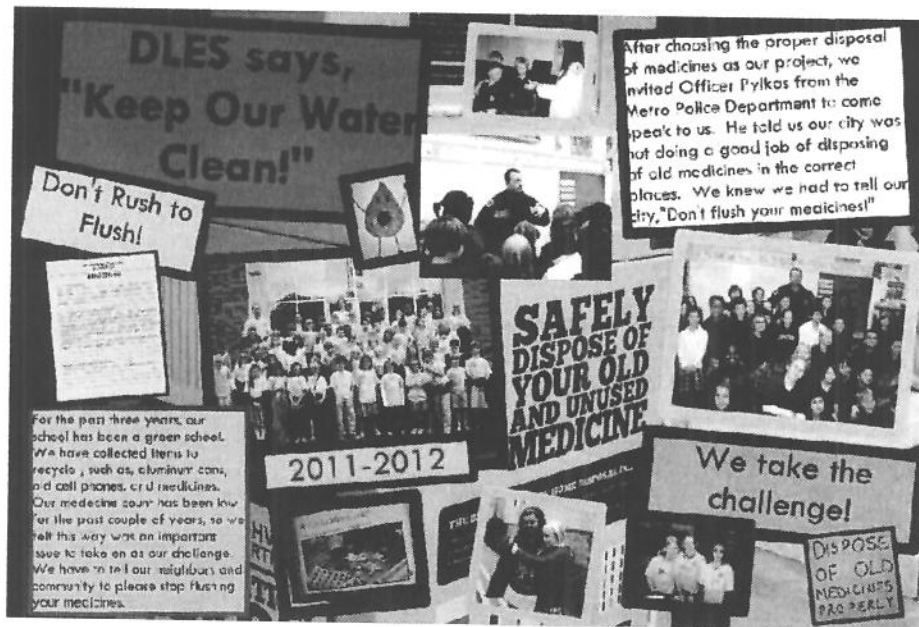
- LAES kindergarteners observed the incubation of two dozen fertile chicken eggs in the spring of 2012. Lessons throughout the incubation period centered on life cycle, the parts and uses of eggs, and nutrition. All kindergarteners experienced the hatching of chicks in real-time through use of a document camera. In addition, these kindergarteners worked outside of school to earn money which they collectively contributed to Heifer International for the purchase of 13 flocks of chickens for indigenous families in the developing world.
- LAES kindergarteners and fourth-graders partnered to create Home Winterizing Kits which were distributed to community members who participated in the annual Household Waste Drop Off event.
- LAES second graders collected gently-used clothing and school supplies for children in Honduras.
- LAES students regularly participate in school-organized food and clothing drives to support local food banks and communities affected by natural disaster.

"Keep Our Water Clean" Service Learning Project

In the 2011-12 school year, third-grade teachers and students implemented a year-long project with several service learning components. The project focused the students' academic studies on the theme "Keep Our Water Clean" throughout the year, which instilled in them awareness of environmentally safe disposal practices for prescription medicine. Students, with help from their teachers, selected the project theme, as well as developed and self-directed many activities during this year-long project. Through collaboration with Lipscomb University (LU) personnel and graduate students in the College of Health Sciences and the Department of Biology, students learned about the production of medication. They tested the effects medication can have on soil and water. The students developed a plan to inform the public, including advertising, creating a PSA, public speaking, writing a book ("A Beautiful Earth"), composing a song ("Don't Rush to Flush"), and inviting local dignitaries to a morning meeting at the elementary school. They carried out the DLES annual Hazardous Waste Drop-Off in collaboration with the LU College of Pharmacy, the Nashville Police Department, and Nissan North America in order to collect unused medications for proper disposal. At the event, 21,768 pills (163 pounds) were collected and kept from polluting Nashville's water supply.

Throughout the project, students informed thousands of Nashville citizens about the proper disposal of medications. The community is now more aware that there is a medication drop box at every Metro Nashville Police precinct. The project culminated with an event at LAES in which the students presented the video of their PSA, their original song, and their pleas for action in regulating medication disposal to

dignitaries including a state representative, a councilman, and personnel from the Department of Environmental Conservation, Metro Public Works, and the Nashville Police Department. As a result, students were invited to further inform and influence state and local decision-making bodies. In addition, the project received first place in the state of Tennessee for Disney's Planet Challenge. The project ranked in the top eight projects in national competition.





Target #20:Community Partnerships

The LAES community is actively involved in making the broader community a better place through numerous activities. Some of Lipscomb's community partnerships have included: Lipscomb University, Nissan North America, Metro Public Works, Metro Water Department Education Division, TDEC, Metro Beautification, Clean Air of Tennessee, Metro Police Department, and Scott Recycling, Keep America Beautiful, Cell Phones for Soldiers, PepsiCo, TerraCycle, Greenopolis and Waste Management.



Students utilize composters which were supplied and built in partnership with members of the sustainability department at Nissan North America.

LAES students regularly participate in school-organized food and clothing drives to support local food banks and communities affected by natural disaster. Students and teachers donate outgrown clothing and leftover school supplies to missions for Honduras and Haiti for use by schoolchildren in those countries. Examples of service learning projects include: collecting and selling aluminum cans and donating the funds to Monarch Watch to further the international study of Monarch butterflies; hatching eggs and collecting coins to donate to Heifer International to buy flocks of chickens for families in 3rd-world countries.

The community benefits from Lipscomb's environmental efforts such as recycling. The school campus provides a convenient recycling center for neighbors and students' parents. Students are impacting community thought as neighboring institutions "follow suit." Students are radically changing family practice as they insist on bringing recyclables to school collection rather than simply throwing items into the trash. People call from all over the Nashville area before the annual Community Household Waste Drop-Off day because they know of Lipscomb's efforts and want to dispose of outdated electronics, broken appliances, and other items in a responsible manner.

Television and newspaper coverage informs people throughout Middle Tennessee about the LAES recycling program, which leads to numerous contacts and inquiries, and, in some cases, emulation.

As a result of LAES' flourishing recycling program, the school is effectively keeping both recyclable and previously non-recyclable waste out of Tennessee's landfills. By participating in the TerraCycle program, LAES' non-recyclable waste (juice pouches, home storage bags, chip bags, etc.) are not only kept out of the landfills but are often up-cycled into reusable items such as pencil cases and bags. As importantly, LAES recycling actions decrease the amount of carbon pollution in the state, as well as the levels of medications in the area's water supply. These efforts also greatly contribute to energy conservation; for example, the energy that was saved as a result of the 101,000 aluminum cans LAES has recycled would power a computer for 303,000 hours.

Teachers and students at LAES have expanded the reach of their recycling collection by setting up manned recycling stations at non-school related events in the community. For example, for several years booths were set up at Trunk-or-Treat events on Halloween weekend. Treats were given in exchange for recycling items.

Kay Felts represented
LAES at a local
community Trunk or
Treat – exchanging
candy for recyclables.



Lipscomb faculty members Ginger Reasonover and Becky Collins give presentations at numerous events across the state including The Tennessee Outdoor Classroom Symposium, Green School Conferences, the Tennessee Environmental Conference, Boy Scout meetings, and garden clubs. At these outreach opportunities, they share information about how LAES built its recycling and environmental program. Many participants at the events follow up with questions and requests for more advice on how to begin recycling measures and other green initiatives at their organizations. In fact, numerous schools and other community organizations have contacted Reasonover and Collins for more information and begun environmental educational programs which include recycling, energy conservation, and hazardous waste disposals modeled after Lipscomb's program.

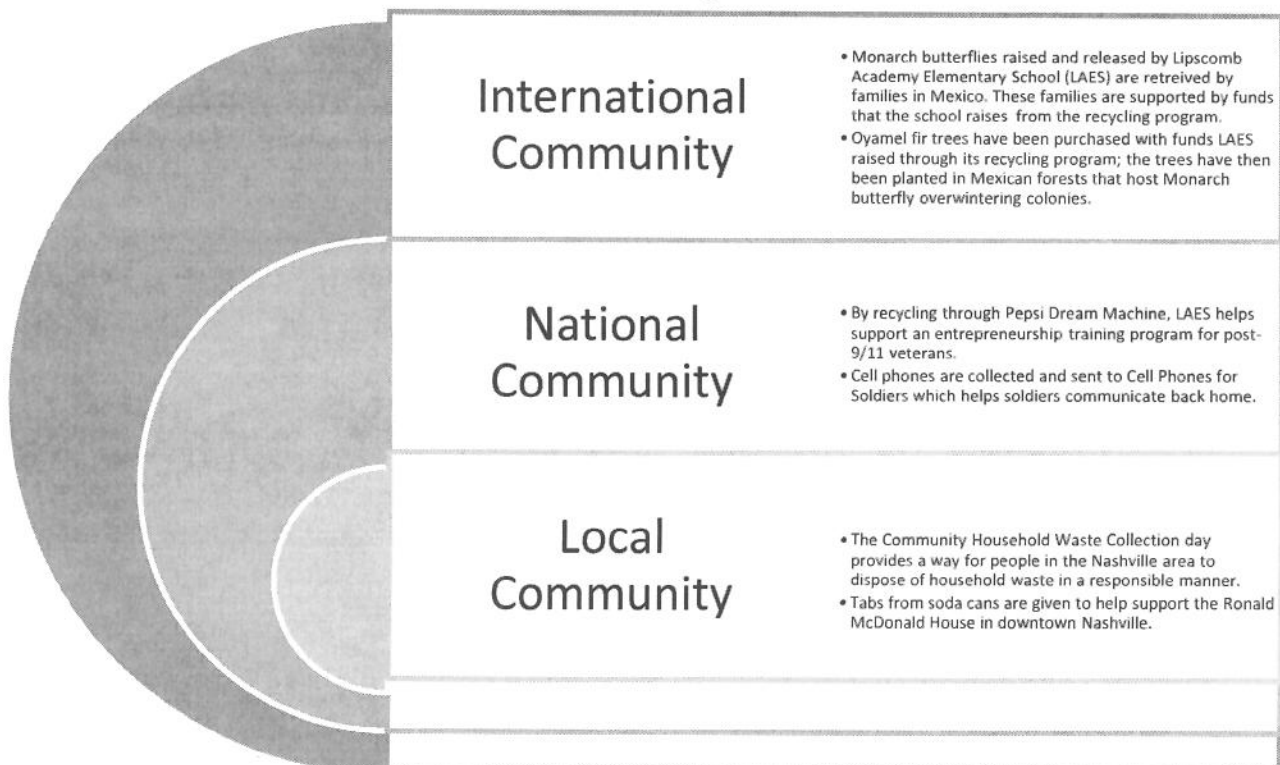
Several LAES faculty members serve on local and state committees focused on environmental, conservation, and public health issues. Lipscomb faculty members were asked for input in development of the Green Ribbon Schools program for Tennessee.

Lipscomb serves as a resource for schools across Tennessee and throughout the Southeast region. LAES is listed as a Model School for Environmental Education in Tennessee (<http://eeintennessee.org/net/org/info.aspx?s=60346.0.0.37935>). As a result, schools interested in learning how to start an environmental education program can contact LAES and numerous schools have done so. In providing consultations to these schools, LAES consistently advises them to access local resources and partnerships that allow institutions to implement affordable programs. Lipscomb's experience is that, with persistence in establishing the right partnerships, it is possible to build a meaningful program completely free of charge and, in many cases, to earn money for recyclable items that can be put back into school programs or donated.



Becky Collins presented a discussion at the Lean, Green Health Fair at Arlington Elementary School in Indianapolis, IN.

LAES' Environmental Impact on its Communities



LAES

has diverted thousands of pounds of waste from landfills!

